

ABSTRACT OF THE DISCLOSURE

A catalyst system and a method for preparing polymers using the catalyst system is provided. The catalyst system includes a complex represented by the formula:

$[ML_Y(HSR)_n]^n$, wherein M is a transition metal cation preferably in a lower oxidation

5 state, L is a ligand, Y is a whole number between 0 and 5, \bar{n} is a whole number between 1 and 6, n is the charge of the complex (preferably between -4 to 3), H is Hydrogen, S is sulphur and R is an organic group or hydrogen. The catalyst system advantageously has high hydrolytic stability which allows it to be used in a variety of polymerization systems including mass, solution, suspension and emulsion. In many cases only a small amount
10 of the catalyst is required to promote polymerization.